



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA 2022-0460; Project Identifier AD-2021-00824-R]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Inc., Helicopters and Various Restricted Category Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for Bell Textron Inc., Model 204B, 205A, 205A-1, 205B, 210, 212, 412, 412CF, and 412EP helicopters and various restricted category helicopters. This proposed AD was prompted by reports of cracks found on the main transmission support case. This proposed AD would require repetitive inspections of the main transmission housing assembly for cracks, pitting, and corrosion and depending on the results, corrective action. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For Bell Helicopter service information identified in this AD, contact Bell Textron, Inc., P.O. Box 482, Fort Worth, TX, 76101, United States; phone (450) 437-2862 or (800) 363-8023; fax (450) 433-0272; email productsupport@bellflight.com; or at <https://www.bellflight.com/support/contact-support>. You may purchase the ASTM International standard from ASTM International at <https://www.astm.org/>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA 2022-0460; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Hye Yoon Jang, Aerospace Engineer, Delegation Oversight Section, DSCO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5190; email hye.yoon.jang@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA 2022-0460; Project Identifier AD-2021-00824-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any

personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Hye Yoon Jang, Aerospace Engineer, Delegation Oversight Section, DSCO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5190; email hye.yoon.jang@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA proposes to adopt a new AD for Bell Textron Inc., Model 204B, 205A, 205A-1, 205B, 210, 212, 412, 412CF, and 412EP helicopters and the following restricted category helicopters:

- Model HH-1K helicopters; current type certificate holders include but are not limited to Rotorcraft Development Corporation;
- Southwest Florida Aviation International, Inc., Model SW205A-1 helicopters;
- Model TH-1F helicopters; current type certificate holders include but are not limited to Robinson Air Crane Inc.; Rotorcraft Development Corporation; and Tamarack Helicopters, Inc.;
- Model TH-1L helicopters; current type certificate holders include but are not limited to Bell Textron Inc.; Overseas Aircraft Support, Inc. (type certificate previously held by JTBAM, Inc.); and Rotorcraft Development Corporation;

- Model UH-1A helicopters; current type certificate holders include but are not limited to Richards Heavylift Helo, Inc.;

- Model UH-1B helicopters; current type certificate holders include but are not limited to International Helicopters, Inc.; Overseas Aircraft Support, Inc.; Red Tail Flying Services, LLC; Richards Heavylift Helo, Inc.; Rotorcraft Development Corporation; Southwest Florida Aviation International, Inc. (helicopters with an SW204 or SW204HP designation are Southwest Florida Aviation International, Inc., Model UH-1B helicopters); and WSH, LLC (type certificate previously held by San Joaquin Helicopters);

- Model UH-1E helicopters; current type certificate holders include but are not limited to Bell Textron Inc.; Overseas Aircraft Support, Inc.; Rotorcraft Development Corporation; Smith Helicopters; and West Coast Fabrications;

- Model UH-1F helicopters; current type certificate holders include but are not limited to AST, Inc.; California Department of Forestry; Robinson Air Crane, Inc.; Rotorcraft Development Corporation; and Tamarack Helicopters, Inc.;

- Model UH-1H helicopters; current type certificate holders include but are not limited to Arrow Falcon Exporters Inc.; Global Helicopter Technology, Inc.; Hagglund Helicopters, LLC; JJASPP Engineering Services, LLC; Northwest Rotorcraft, LLC; Overseas Aircraft Support, Inc.; Richards Heavylift Helo, Inc.; Rotorcraft Development Corporation; Southwest Florida Aviation International, Inc. (helicopters with an SW205 designation are Southwest Florida Aviation International, Inc., Model UH-1H helicopters); and Tamarack Helicopters, Inc.;

- Model UH-1L helicopters; current type certificate holders include but are not limited to Bell Textron Inc.; Overseas Aircraft Support, Inc.; and Rotorcraft Development Corporation; and

- Model UH-1P helicopters; current type certificate holders include but are not limited to Robinson Air Crane, Inc.; and Rotorcraft Development Corporation.

This proposed AD would require repetitive inspections of the main transmission housing assembly. This proposed AD was prompted by reports of main transmission support cases found cracked at one of the lateral mounts. This condition, if not addressed,

could result in cracking at the upper or lower surfaces of the lateral mounts, loss of load carrying capabilities of the main transmission, and subsequent loss of control of the helicopter.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Other Related Service Information

The FAA reviewed Fluorescent Penetrant Inspection Method (ASTM E1417) of Chapter 6 – Non-Destructive Inspection, of Bell Helicopter, Standard Practices Manual BHT-ALL-SPM, Revision 8, dated August 30, 2021, and ASTM International Standard Practice for Liquid Penetrant Testing E1417/E1417M-21, dated September 1, 2021 (ASTM E1417). This service information specifies procedures for the fluorescent penetrant inspection.

Proposed AD Requirements in this NPRM

This proposed AD would require, within 3,000 hours time-in-service (TIS) accumulated by the main transmission after the effective date of this proposed AD, and thereafter at intervals not to exceed 3,000 hours TIS accumulated by the main transmission, removing certain screws and washers and visually inspecting the upper and lower transmission support case lateral mount screws for corrosion and thread damage, washers for corrosion and pitting, bushings for corrosion and pitting, and lateral mount surfaces for corrosion and mechanical damage such as any crack or pitting. If there is any corrosion, thread damage, or mechanical damage, this proposed AD would require removing the affected parts from service before further flight.

This proposed AD would also require repetitive fluorescent penetrant inspections (FPIs) of all surfaces of the main transmission support case lateral mounts for a crack. For helicopters with a main transmission that has accumulated 6,000 or more total hours TIS, the initial FPI would be required before further flight after the effective date of this AD. For helicopters with a main transmission that has accumulated less than 6,000 total hours TIS, the initial FPI would be required before the main transmission accumulates

6,000 total hours TIS. For all helicopters, following the initial FPI, this proposed AD would require performing an FPI at intervals not to exceed 6,000 hours TIS accumulated by the main transmission. If there is any crack, this proposed AD would require removing the main transmission support case from service before further flight.

Costs of Compliance

The FAA estimates that this proposed AD would affect up to 621 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

Inspecting the main transmission mount assembly would take about 1 work-hour, for an estimated cost of \$85 per helicopter and \$52,785 for the U.S. fleet, per inspection cycle.

Inspecting the main transmission support case lateral mounts by fluorescent penetrant method would take about 1 work-hour for an estimated cost of \$85 per helicopter, and \$52,785 for the U.S. fleet, per inspection cycle.

If required, replacing the transmission support case assembly hardware parts including 8 washers, 8 screws, and 4 bushings would take about 1 work-hour and parts would cost up to \$100 per part for an estimated cost of up to \$2,000 per helicopter.

If required, replacing the main transmission support case assembly would take up to 60 work-hours and parts would cost up to \$54,501 for an estimated cost of up to \$59,601 per helicopter.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Bell Textron Inc., and Various Restricted Category Helicopters: Docket No. FAA 2022-0460; Project Identifier AD-2021-00824-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the following:

(1) Bell Textron Inc., Model 204B, 205A, 205A-1, 205B, 210, 212, 412, 412CF, and 412EP helicopters, certificated in any category; and

(2) Various restricted category helicopters:

(i) Model HH-1K helicopters; current type certificate holders include but are not limited to Rotorcraft Development Corporation;

(ii) Southwest Florida Aviation International, Inc. Model SW205A-1 helicopters;

(iii) Model TH-1F helicopters; current type certificate holders include but are not limited to Robinson Air Crane Inc.; Rotorcraft Development Corporation; and Tamarack Helicopters, Inc.;

(iv) Model TH-1L helicopters; current type certificate holders include but are not limited to Bell Textron Inc.; Overseas Aircraft Support, Inc. (type certificate previously held by JTBAM, Inc.); and Rotorcraft Development Corporation;

(v) Model UH-1A helicopters; current type certificate holders include but are not limited to Richards Heavylift Helo, Inc.;

(vi) Model UH-1B helicopters; current type certificate holders include but are not limited to International Helicopters, Inc.; Overseas Aircraft Support, Inc.; Red Tail Flying Services, LLC; Richards Heavylift Helo, Inc.; Rotorcraft Development Corporation; Southwest Florida Aviation International, Inc.; and WSH, LLC (type certificate previously held by San Joaquin Helicopters);

Note 1 to paragraph (c)(2)(vi): Helicopters with an SW204 or SW204HP designation are Southwest Florida Aviation International, Inc., Model UH-1B helicopters.

(vii) Model UH-1E helicopters; current type certificate holders include but are not limited to Bell Textron Inc.; Overseas Aircraft Support, Inc.; Rotorcraft Development Corporation; Smith Helicopters; and West Coast Fabrications;

(viii) Model UH-1F helicopters; current type certificate holders include but are not limited to AST, Inc.; California Department of Forestry; Robinson Air Crane, Inc.; Rotorcraft Development Corporation; and Tamarack Helicopters, Inc.;

(ix) Model UH-1H helicopters; current type certificate holders include but are not limited to Arrow Falcon Exporters, Inc.; Global Helicopter Technology, Inc.; Hagglund Helicopters, LLC; JJASPP Engineering Services LLC; Northwest Rotorcraft, LLC; Overseas Aircraft Support, Inc.; Richards Heavylift Helo, Inc.; Rotorcraft Development Corporation; Southwest Florida Aviation International, Inc.; and Tamarack Helicopters, Inc.;

Note 2 to paragraph (c)(2)(ix): Helicopters with an SW205 designation are Southwest Florida Aviation International, Inc., Model UH-1H helicopters.

(x) Model UH-1L helicopters; current type certificate holders include but are not limited to Bell Textron Inc.; Overseas Aircraft Support, Inc.; and Rotorcraft Development Corporation; and

(xi) Model UH-1P helicopters; current type certificate holders include but are not limited to Robinson Air Crane, Inc.; and Rotorcraft Development Corporation.

(d) Subject

Joint Aircraft System Component (JASC) Code 6320, Main Rotor Gearbox.

(e) Unsafe Condition

This AD was prompted by reports of cracks found in the main transmission support case possibly due to corrosion. The FAA is issuing this AD to detect and address corrosion and other mechanical damage of the main transmission support case assembly. The unsafe condition, if not addressed, could result in cracking at the upper or lower surfaces of the lateral mounts, loss of load carrying capabilities of the main transmission, and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 3,000 hours time-in-service (TIS) accumulated by the main transmission after the effective date of this AD, and thereafter at intervals not to exceed

3,000 hours TIS accumulated by the main transmission, remove the screws and washers from the upper and lower surfaces of the main transmission support case lateral mounts and accomplish the following:

(i) Visually inspect each screw for corrosion and thread damage. If there is any corrosion or thread damage, before further flight, remove the screw from service.

(ii) Visually inspect each upper and lower washer for corrosion and pitting. If there is any corrosion or pitting, before further flight, remove the washer from service.

(iii) Visually inspect each installed bushing for corrosion and pitting. If there is any corrosion or pitting, before further flight, remove the bushing from service.

(iv) Visually inspect each upper and lower main transmission support case lateral mount machined surface adjacent to each washer and each lateral mount threaded screw hole for corrosion and mechanical damage. For the purposes of this AD, mechanical damage may be indicated by a crack or pitting. If there is any corrosion or mechanical damage, before further flight, remove the main transmission support case assembly from service.

(2) Fluorescent penetrant inspect (FPI) all surfaces of the main transmission support case lateral mounts for a crack at the compliance times identified in paragraph (g)(2)(i) or (ii) of this AD.

(i) For helicopters with a main transmission that has accumulated 6,000 or more total hours TIS, before further flight after the effective date of this AD.

(ii) For helicopters with a main transmission that has accumulated less than 6,000 total hours TIS, before accumulating 6,000 total hours TIS on the main transmission after the effective date of this AD.

(iii) If there is any crack, before further flight, remove the main transmission support case assembly from service.

Note 3 to paragraph (g)(2): This note applies to paragraphs (g)(2) and (3) of this AD. ASTM International Standard Practice for Liquid Penetrant Testing E1417/E1417M-21, dated September 1, 2021 (ASTM E1417) provides additional information regarding and is an acceptable method for the fluorescent penetrant inspection.

(3) Thereafter following paragraph (g)(2) of this AD, at intervals not to exceed 6,000 hours TIS accumulated by the main transmission, FPI all surfaces of the main transmission support case lateral mounts for a crack. If there is any crack, before further flight, remove the main transmission support case assembly from service.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, DSCO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information. Information may be emailed to: 9-ASW-190-COS@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

(1) For more information about this AD, contact Hye Yoon Jang, Aerospace Engineer, Delegation Oversight Section, DSCO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5190; email hye.yoon.jang@faa.gov.

(2) For ASTM service information identified in this AD, you may purchase the ASTM standard from ASTM International at <https://www.astm.org/>. You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Issued on April 7, 2022.

Ross Landes, Deputy Director for Regulatory Operations,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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